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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,245

04/26/2006

Takuya Tsukagoshi

127848

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25944 7590 04/20/2009

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ALEXANDRIA, VA 22320-4850

EXAMINER

CALLAWAY, JADE R

ART UNIT

PAPER NUMBER

2872

MAIL DATE

DELIVERY MODE

04/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,245	Applicant(s) TSUKAGOSHI ET AL.	
	Examiner JADE R. CALLAWAY	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/27/09, 2/23/09.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-9 and 11-40 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,6-9,12 and 14-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,5,11 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/23/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendments to the claims, in the submission dated 2/27/09, are acknowledged and accepted.

Response to Arguments

2. Applicant's arguments filed 2/27/09 have been fully considered but they are not persuasive. Applicants argue that the prior art does not disclose the generation of diffraction beams in holographic recording layers at the same time and simultaneous detection of the diffraction beams by two-dimensional photodetectors. The Examiner respectfully disagrees. Tanabe discloses (e.g. figures 16 and 17) multiple light sources (71A, laser diodes) that generate diffraction beams in the holographic recording layers (53, hologram record medium) at the same time and provide simultaneous detection of the diffraction beams by two-dimensional photodetectors (via the photo diode array, 72 read out section). Tanabe discloses that whenever the illuminating angle of the reference beam is changed it reproduces the data of a desired recording layer. Figure 17 shows an example of the illumination light having two incidence angles. As such, although it is not explicitly disclosed by Tanabe that the diffraction beams are generated in the holographic recording layers at the same time and are simultaneously detected by the two-dimensional photodetectors, it can be deduced from figures 16 and 17 that such an occurrence is an option in reconstruction of the holograms.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because the length exceeds 150 words. Correction is required. See MPEP § 608.01(b).

5. The abstract of the disclosure is objected to because of the use of the phrase "are provided." Correction is required. See MPEP § 608.01(b).

Claim Objections

6. Claim 2 is objected to because of the following informalities: it appears that "a difference Bragg's condition" should instead be "a different Bragg's condition" in lines 10-11. For purposes of examination the limitation will be treated as such. Appropriate correction is required.

7. Claim 5 is dependent on claim 2 and inherits at least the same deficiencies as claim 2.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 5, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe et al. (JP 11-224043).

Consider claim 2, Tanabe discloses (e.g. figures 1 and 16-17) a multilayer holographic recording and reproducing method for holographically recording information on a multilayer holographic recording medium including a number of deposited holographic recording layers in each of which interference fringes can be formed by projecting an object beam and a reference beam that are split from a laser beam (Fig. 1, Abstract) and for reproducing the recorded information by projecting a laser beam for reproduction, the method comprising: a process of recording the information by fixing a projection condition of one of the object beam and the reference beam and modulating the other for each of the holographic recording layers so that the holographic recording layers each have a different Bragg's condition (due to the change of the angle); and a process of projecting the laser beam for reproduction onto the deposited holographic recording layers with the same projection condition as that of the reference beam (paragraph [0014]), the diffraction beams generated in the respective holographic recording layers at the same time by the projected beams are detected by two-dimensional photodetectors, thereby reproducing pieces of information from light-detecting signals of the two-dimensional photodetectors (paragraph [0050]). Although Tanabe does not specifically disclose simultaneously reproducing pieces of information from diffraction beams generated in the respective holographic recording layers by the

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projected beams, such feature can be deduced from the reference (see figures 16 and 17 and paragraph 0050) as an option in reconstruction of the holograms.

It would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to reconstruct the holograms in such manner (i.e. by a normal reference beam to the surface of the holographic medium) in order to simplify the optical alignment.

However, Tanabe does not specifically disclose that the number of two-dimensional photodetectors is equal to that of the holographic recording layers. Note that the Court has held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced; see **In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)**. It would have been obvious to a person having ordinary skill in the art to number the holographic layers and the two-dimensional photodetectors the same so that different photodetectors could simultaneously detect different layers to reproduce the data of a specific location on a card under examination.

Consider claim 11, Tanabe discloses (e.g. figures 1, 4, and 16-17) a multilayer holographic recording and reproducing apparatus for holographically recording information on a multilayer holographic recording medium including a number of deposited holographic recording layers in each of which interference fringes can be formed by projecting an object beam and a reference beam that are split from a laser beam (Fig. 1, Abstract) and for reproducing the recorded information by projecting a laser beam for reproduction, the apparatus comprising: an object optical system and a reference optical system for directing the object light beam and the reference light beam

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to the multilayer holographic recording medium respectively; a reproducing laser optical system for projecting the laser beam for reproduction onto the deposited holographic recording layers (Fig. 4); and two-dimensional photodetectors for reproducing pieces of information from diffraction beams generated in the respective holographic recording layers by the laser beams for reproduction, wherein the reference optical system is configured to fix a projection condition of reference beam and modulate the other beam for each of the holographic recording layers so that the holographic recording layers each have a different Bragg's condition (due to the change of the angle); the reproducing laser optical system is configured to make the laser beam for reproduction be projected onto the deposited holographic recording layers with the same projection condition as the fixed projection condition of the reference beam (paragraph [0014]) to generate the diffraction beams in the respective holographic recording layers at the same time by the projected beams are detected by two-dimensional photodetectors, thereby reproducing pieces of information from light-detecting signals of the two-dimensional photodetectors (paragraph [0050]). Although Tanabe does not specifically disclose simultaneously reproducing pieces of information from diffraction beams generated in the respective holographic recording layers by the projected beams, such feature can be deduced from the reference (see figures 16 and 17 and paragraph 0050) as an option in reconstruction of the holograms.

It would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to reconstruct the holograms in such manner (i.e. by a

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normal reference beam to the surface of the holographic medium) in order to simplify the optical alignment.

However, Tanabe does not specifically disclose that the number of two-dimensional photodetectors is equal to that of the holographic recording layers. Note that the Court has held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced; see **In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)**. It would have been obvious to a person having ordinary skill in the art to number the holographic layers and the two-dimensional photodetectors the same so that different photodetectors could simultaneously detect different layers to reproduce the data of a specific location on a card under examination.

Regarding claims 5 and 13, Tanabe teaches modulating the angle of the object and reference beam for each holographic recording (claim 8).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JADE R. CALLAWAY whose telephone number is (571)272-8199. The examiner can normally be reached on Monday to Friday 7:00 am - 4:30 pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRC
/JADE R. CALLAWAY/
Examiner, Art Unit 2872

/Stephone B. Allen/
Supervisory Patent Examiner
Art Unit 2872